AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A high duty cycle power converter (2) having a closed loop variable signal (12) current mode control characterised in that the variable signal (12) is changed by a derived signal (11) which is derived as a function of the difference between the desired duty cycle (7) and the measured duty cycle (6) and in which the output of the power converter (2) is used to clamp the voltage of the power converter (2) wherein a diode (23) is connected in parallel with an output inductor (21) of the power converter (2) to clamp the voltage of the power converter.

2. (Original) A high duty cycle power converter (2) as claimed in claim 1, in which the derived signal (11) is referenced with the variable signal (12) to provide a control signal (13) in a controller (5) to change the variable signal (12) to operate the current mode control.

3. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, comprising means for measuring the measured duty cycle (6) from switching elements of the input switching stage (3) of the power converter (2) by measuring the on time interval of each switching element during a preset time interval.

4. (Previously Presented) A high duty power converter (2) as claimed in claim 1, in which the desired duty cycle is set on a deadtime requirement consistent with substantially lossless switching.

5. (Original) A high duty power converter (2) as claimed in claim 4, in which the desired duty cycle is fixed in the range 90% to 99%.

6. (Original) A high duty power converter (2) as claimed in claim 4, in which means are provided to change the desired duty cycle having regard to operating parameters.

7. (Original) A high duty power converter (2) as claimed in claim 6, in which the operating parameter is the load on the high duty power converter (2).

8. (Previously Presented) A high duty power converter (2) as claimed in claim 1, in which means are provided to deliver a signal analogous to the measured duty cycles.

9. (Original) A high duty cycle power converter (2) as claimed in claim 8, in which the means comprises an averaging circuit (8).

10. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, in which the controller (5) comprises an error amplifier (9) to compare the desired duty cycle signal (7) with the measured duty cycle (6) signal to provide the derived signal (11).

11. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, in which the controller (5) to operate the current mode control comprises means for generating drive signals (15, 16) from the control signal (13) to modify the duty cycle of the input switching elements of the input switching stage (3).

12. (Cancelled)

13. (Cancelled)

14. (Currently Amended) A high duty cycle power converter (2) as claimed in ~~claim 13~~claim 1, in which a resistor (24) is placed in series with the diode (23) and connected in parallel with the output inductor (21).

15. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, in which there is provided means to adjust the effective duty cycle to compensate for ripple voltages.

16. (Original) A high duty cycle power converter (2) as claimed in claim 15, in which there is provided a saturable reactor (31a, 31b) connected to output switching elements of the output switching stage (4) of the power converter to adjust effective duty cycle of the power converter (2).

17. (Original) A high duty cycle power converter (2) as claimed in claim 16, in which the saturable reactor (31a, 31b) is provided with a controllable reset condition to provide a delay for the output switching elements to adjust the effective duty cycle of the power converter.

18. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 15, comprising a reset winding having a control signal derived from a closed loop monitoring of the output voltage.

19. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 15, in which the means to adjust the effective duty cycle comprises a reset winding having a control signal obtained from a prediction of the needed ripple voltage requiring cancellation.

20. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, in which a separate auxiliary winding (56, 57) is connected to the primary winding (51) of the converter to provide an auxiliary gate drive signal to switches (52, 55).

21. (Previously Presented) A high duty cycle power converter (2) as claimed in claim 1, in which a clamp circuit (58, 59) is connected to the midpoint of the primary winding (51).

22. (Cancelled)